

## REMARKS

### 35 U.S.C § 103

The examiner rejected claims 1, 12, 14, 18 and 20-23 under 35 U.S.C. 103(a), as being unpatentable over Choy et al. (US 6695770) in view of Yee et al. (US 6016385).

The examiner stated:

**6. In regards to claims 1 and 14, Choy discloses a virtual reality encounter system comprising: a mannequin coupled to a computer system wherein the mannequin is fitted with appropriate sensors that are connected to the computer system to transmit to another location and user device over a network (3:23-25), a headset, to display morphing animations and animated textures on the appropriate avatar (9:65-10:6) and a processor that overlays a virtual environment over one or more portions of the video image to form a virtual scene (8:47-58 and 9:65-10:6), Choy lacks explicitly stating the use of a camera supported by the mannequin.**

**7. In related prior art, Yee discloses a robot system wherein an operator controls the robot and receives sensory information from the robot, including a pair of cameras corresponding to the remote user's eyes coupled to the robot for receiving a video image where the cameras send the video images via a communication network to the user (5:11-37). One skilled in the art would recognize the advantages of providing video signals to a remote user.**

Claim 1 is directed to “a virtual reality encounter system includes a mannequin, a camera supported by the mannequin, the camera for capturing an image of a scene; a processor receiving the image from the camera, overlaying a virtual environment over one or more portions of the image to form an image of a virtual scene and sending the image of the virtual scene to a communications network; and a set of goggles....”

The examiner readily admits that: “Choy lacks explicitly stating the use of a camera supported by the mannequin.” However, the examiner relies on Yee for its alleged disclosure of a pair of cameras coupled to a robot for receiving and sending video signals. The rationale to combine these two references in rejecting claim 1 used by the examiner is: “8. Therefore it would have been obvious to one skilled in the art at the time to combine the camera configuration of Yee with the two person configuration of Choy to provide a more realistic experience to both users.”<sup>1</sup>

Applicant contends that Choy is not understood to teach any of the claimed elements in independent claim 1. The combination made by the examiner must necessarily fail because it

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<sup>1</sup> Office Action, page 3.

does not yield reasonable expectation of success in any event. Contrary to the examiner's argument, Applicant contends that any motivation to provide a more realistic experience to both remote users in a networked environment in Choy is irrelevant to Choy and the combinations of Yee with Choy and moreover could only be gleaned from ex post reasoning derived from Applicant's claims and/or specification. Choy intends to disclose an apparatus for providing a virtual reality sexual experience<sup>2</sup> in a user-user environment. For example, Choy states: "Rather than having a virtual human with associated artificial intelligence, this system would have the virtual human replaced by another use. His or her movements (tracked by the tracking hardware) would be applied to the polygon mesh representing them within the virtual world. Their representation within the world is known as a avatar (described in more detail later). The user can choose this avatar before entering the environment. It could be a famous personality for instance. The other user would see this user as that personality."<sup>3</sup> For the purpose of achieving virtual reality between two users, Choy discloses creating software, e.g., extensive libraries or database of images and imagery scenarios in a virtual world, to allow either user to enter a virtual world and have a sexual experience with another actual human, portrayed within the software by an avatar.<sup>4</sup> There is no indication in Choy to suggest using a pair of cameras to exchange video signals in real time between two human users at two different physical locations. The reference itself does not provide this kind of motivation for combination that may be afforded by any reference.

Further, the examiner in "Response to Arguments" on page 11 to 12 states: "One of ordinary skill in the art would have recognized the advantages of a human like vision system as taught by Yee and the benefits the camera location would have had when combined with the system of Choy so that the partners might be able to see each other while engaging in remote controlled congress. As the combination teaches the use of a camera to provide images and teaches overlaying video images to create a virtual scene, the claims are unpatentable over the combination."

Applicant contends that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1488 (Fed. Cir. 1991). Choy, if considered in its entirety, is designed to provide a virtual reality experience and all objects within the virtual reality environment are made from polygon meshes.<sup>5</sup> In this regard, Choy explicitly states:

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<sup>2</sup> See Abstract in Choy.

<sup>3</sup> See Col. 10, lines 58-67 in Choy.

<sup>4</sup> See Col. 11, lines 13-25 in Choy.

<sup>5</sup> See Col. 14, lines 46-47 in Choy.

**To develop the database on which the software operates, an object scanner is used to collect three-dimensional images of head and body. The three-dimensional scanned image can then be meshed onto a database of a standard human movement which is with reference to standard point of movement which can be toes, ankles, knees, hips, pelvis, shoulder, elbows, wrist, neck and head.**

**Software is used to approximate where all the significant facial muscles are on the meshed frame and maps this on the individuals rendered face so that a software graphics engine can be used to render the mesh thereby generating the character so that the desired visual expressions can be created.<sup>6</sup>**

Applicant submits the examiner's "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." *In re Ratti*, 270 F.2d at 813, 123 USPQ at 352 (CCPA 1959). Claim 1 is allowable over the art.

Claim 14 is allowable over Choy and Yee at least for the reasons discussed in claim 1.

Claims 12 and 22 depend directly from claim 1 and 14, respectively. Claim 12 recites that "the set of goggles, comprises a receiver to receive the virtual scene." As admitted by the examiner, Choy fails to describe that "a processor receiving the image from the camera, overlaying a virtual environment over one or more portions of the image to form an image of a virtual scene and sending the image of the virtual scene to a communications network," which is an indispensable prior step to form a virtual scene for claim 12. Therefore, claims 12 and 22 are allowable over Choy.

Claims 18, 20, 21, and 23 are allowable over Choy and Yee for at least the reasons given in claims 1 and 14.

The examiner rejected claims 2-6, 10, 11, 13 and 15-17 under 35 U.S.C. 103(a), as being unpatentable over Choy in view of Yee as applied to claim 1 above, and further in view of Dundon (US 7046151).

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<sup>6</sup> See Col. 8, lines 40-52 in Choy.

Applicant contends that claims 2-6, 10, 11, 13 and 15-17 17 are allowable over Choy in view of Yee and further in view of Dundon at least for the reasons discussed in claim 1, in that Dundon does not cure the deficiencies of the combination of referenced applied to claim 1.

The examiner rejected claims 7, 8, 9 rejected under 35 U.S.C. 103(a), as being unpatentable over Choy in view of Yee and Dundon as applied to claim 6 above, and further in view of Abbasi (US 6786863).

Applicant contends that claims 7, 8, and 9 are allowable over Choy in view of Yee and further in view of Dundon and further in view of Abbasi at least for the reasons discussed in claim 1, in that Abbasi does not cure the deficiencies of the combination of references.

In "Response to Arguments", the examiner states: "Choy teaches the sytem set forth above with multiple remote users interacting. Abbasi teaches that in systems with two persons interacting remotely it is beneficial for each party to have a microphone and a camera. Therefore the combination would teach each party of Choy having a microphone, camera, and headset in order to interact with each other."<sup>7</sup>

As explained above, nothing in Choy describes or suggests using a microphone or a camera to promote a more realistic interaction among multiple parties. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The examiner rejected claim 19 under 35 U.S.C. 103(a), as being unpatentable over Choy in view of Yee as applied to claim 18 above, and further in view of Abbasi.

Claim 19 is allowable over Choy in view of Yee and further in view of Abbasi at least for the reasons discussed in claim 1, in that Abbasi does not cure the deficiencies of the combination of referenced applied to claim 1.

The examiner rejected claims 24-25 under 35 U.S.C. 103(a), as being unpatentable over Choy in view of Dundon and Abbasi.

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<sup>7</sup> Office Action, page 12.

Claim 24 further distinguishes over the references. Claim 24 includes the features of "... a first mannequin including ... a first camera supported by the first mannequin ... a second mannequin including ... a second camera supported by the second mannequin, ... a first body suit having motion sensors disposed over the first body suit, ... motion actuators ... and a processor receiving and processing the first image and the second image over a communications network. Claim 24 also includes a set of goggles having a display ... rendering on the display at least one of the first image and the second image ... and a second body suit ... ."

The examiner argues: "Therefore it would have been obvious to one skilled in the art at the time to combine the system of Choy with the teachings of Abbasi because the use of sight and sound is important for easy communication and as Choy suggests, the combination of touch, audio and visual stimulation is a powerful and effective means of communication (1:19-22)." Applicant contends the claims limitations are not puzzle pieces to be matched to atomized prior art reference suggestions, and examined out of context. As presented above, Choy generates touch, audio and visual stimulation in a virtual reality environment. Choy focuses on computer generated imagery in virtual reality, such that the avatars (representatives of the participants in virtual reality) and the environment they are to be experienced can be many and varied.<sup>8</sup> Choy indeed discloses creating audio and visual stimulations using software, yet there is no indication that Choy intends to use microphone and camera to exchange audio and visual signals among multiple participants. For example, with respect to audio simulation, Choy states<sup>9</sup>:

**Sound handling is a desirable component of the preferred embodiment since sound is obviously an important part of the overall experience. Sound must be sampled at a high enough bit-rate and frequency to make it realistic.**

**Provision for positional audio must also be made. In other words a sound of a car in the virtual world must appear to originate from the car. This is known as 3D sound localisation and software development kits are available to provide the programmer with the necessary algorithms to program such sounds.**

Claim 24 is allowable because no combination of Choy, Yee and Abbasi suggests at least a camera supported by both the first and the second mannequins. In addition, claim 24 is also

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<sup>8</sup> See Col. 11, lines 18-20 in Choy.

<sup>9</sup> See Col. 11, lines 34-43 in Choy.

allowable because no combination of the references suggests the arrangement of the first and second mannequins.

It is believed that all the rejections and/or objections raised by the examiner have been addressed.

In view of the foregoing, applicant respectfully submits that the application is in condition for allowance and such action is respectfully requested at the examiner's earliest convenience.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

The fee for the Petition for Extension of Time is being paid concurrently on the electronic filing system by way of deposit account authorization. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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